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**REMARKS**

Upon entry of the present amendment, claims 1-8 and 10-19 will be pending. Claims 1, 13, 14, 16, 17, and 19 have been amended to further clarify the term AV. Support for the amendment can be found, for example, at page 4, line 19, of the specification. Claim 19 has also been amended to clarify that the abrasive coating is derived from an abrasive slurry comprising the specified materials. The objection to the claims and abstract should be withdrawn in view of Applicants' amendment.

Reconsideration of the application in view of the following remarks is respectfully requested.

**I. Claim 19 complies with 35 U.S.C. § 112, First Paragraph**

Claim 19 stands rejected under 35 U.S.C. § 112, first paragraph. Applicants have amended claim 19 to further clarify that the abrasive coating is derived from an abrasive slurry comprising a reactive curing binder precursor. This amendment is consistent with the suggestion provided in the Office Action. Accordingly, the rejection of claim 19 should be withdrawn.

**II. Claims 1-4, 7, 8, 10-12, and 16-19 are Not Anticipated by Kendall et al.****a. U.S. Pat. No. 6,848,986; U.S. Pat. App. Pubs. 2003/0017797 and 2003/0194961**

Claims 1-4, 7, 8, 10-12, and 16-19 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Kendall et al. (U.S. Pat. No. 6,848,986 and U.S. Pat. App. Pubs. 2003/0017797 and 2003/0194961; hereinafter referred to collectively as "Kendall et al. ('233)"). These three references are related and claim common priority to application number 09/819,233. Applicants request reconsideration of this rejection because Kendall et al. ('233) do not teach or suggest an abrasive slurry comprising superabrasive particles in combination with a dispersant having molecular weights or amine values as recited in Applicants' claims.

The Office Action alleges that because the list of abrasive particles reported by Kendall et al. ('233) includes diamonds and Example 1 reports Solspere 32000, Kendall et al. ('233) "disclose embodiments meeting applicants' claimed limitations". Applicants disagree. Kendall et al. ('233) list diamond and cubic boron nitride (i.e., superabrasives) in a lengthy list of known

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abrasive particles (see, 6,848,986 at col. 4, line 63 – col. 5, line 13; 2003/0017797 at [32]-[33]; and 2003/0194961 at [32-33]). The examples reported by Kendall et al. ('233), however, are limited to silicon carbide (i.e., "GC3000") and ceria (see "Table of Contents", 6,848,986 at col. 13; 2003/0017797 between [90] and [91]; and 2003/0194961 at [91]). Further, Example 1 referred to in the Office Action does not contain a superabrasive. Accordingly, Kendall et al. ('233) do not teach or suggest an abrasive slurry comprising superabrasive particles in combination with a dispersant having molecular weights or amine values as recited in Applicants' claims.

As stated in Applicants' prior response, it is important to note that the selection of a suitable dispersant for a particular combination of particles and a continuous phase is not a trivial matter (see, e.g., Parfitt, G.D., "Fundamental Aspects of Dispersion" in *Dispersion of Powders in Liquids (with Special Reference to Pigments)* 3<sup>rd</sup> edition, ed. G.D. Parfitt (New Jersey: Applied Science Publishers, 1981), 1:1-50). "Surface active agents often play a leading role in all three aspects of the dispersion process, although they might easily be useful in one but antagonistic in another. There are no simple rules; each case has to be considered in detail." (*id.* at page 4).

In view of the complex issues involved in selecting a dispersant for a particular combination of abrasive particles and binder, one skilled in the art would recognize that Kendall et al. ('233) simply do not teach or suggest an abrasive slurry comprising superabrasive particles in combination with a dispersant having molecular weights or amine values as recited in Applicants' claims. Accordingly, the rejection of claims 1-4, 7, 8, 10-12, and 16-19 under 35 U.S.C. § 102(e) in view of Kendall et al. ('233) should be withdrawn.

**b. U.S. Pat. App. Pub. 2003/0024169**

Claims 1-4, 7, 8, 10-12, and 16-19 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Kendall et al. (U.S. Pat. App. Pub. 2003/0024169; hereinafter referred to as "Kendall et al. ('169)"). Applicants request reconsideration of this rejection because Kendall et al. ('169) do not teach or suggest an abrasive slurry comprising superabrasive particles in combination with a dispersant having molecular weights or amine values recited in Applicants' claims.

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Similar to Kendall et al. ('233), Kendall et al. ('169) list diamond and cubic boron nitride (i.e., superabrasives) in a lengthy list of known abrasive particles (see, [29]-[30]). The examples reported by Kendall et al. ('169), however, are limited to silicon carbide (i.e., "GC3000") and ceria (see "Table of Contents" at [82]). Further, Example 1 referred to in the Office Action does not contain a superabrasive. Kendall et al. ('169) do not teach or suggest an abrasive slurry comprising superabrasive particles in combination with a dispersant having molecular weights or amine values as recited in Applicants' claims. Accordingly, the rejection of claims 1-4, 7, 8, 10-12, and 16-19 under 35 U.S.C. § 102(e) in view of Kendall et al. ('169) should be withdrawn.

**III. Claims 1-8 and 10-19 are Not Obvious in view of Bruxvoort et al., Yamamoto et al., Kamikubo et al., and Cayton et al.**

Claims 1-8 and 10-19 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Bruxvoort et al. (U.S. Pat. No. 5,958,794) in view of Yamamoto et al. (U.S. Pat. No. 5,244,979), Kamikubo et al. (U.S. Pat. No. 5,698,618), and Cayton et al. (U.S. Pat. App. Pub. 2003/0032679). Without admitting that Cayton et al. is available as prior art to the present application, Applicants request reconsideration of this rejection because there is no evidence of record indicating that those of ordinary skill would have been properly motivated to combine one of the dispersants reported by Yamamoto et al., Cayton et al., or Kamikubo et al. into a dispersion taught by Bruxvoort et al., much less a dispersion comprising superabrasives.

Applicants acknowledge that Solspers materials and other similar dispersants were known in the art of dispersing metal oxides in solvents for paints, inks, toners, and magnetic tape coating articles, however, nothing in the cited references suggest that these particular dispersants would be suitable for dispersing superabrasives. The Office Action states that the "dispersing of inorganic abrasive particles in a resin is substantially identical to the dispersing of inorganic coloring or magnetic particles in a resin." (Office Action, page 8). Applicants disagree. As discussed above, the selection of a suitable dispersant for a particular combination of particles and a continuous phase is not a trivial matter. Further, to the extent that there may be some overlap concerning some inorganic abrasive particles and inorganic coloring or magnetic particles, the overlap does not include superabrasive particles. In fact, only two of the inorganic pigments reported by Yamamoto et al. appear in the list of about 25 inorganic abrasive materials

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reported by Bruxvoort et al.; neither of these is in the list of hard abrasive materials, much less superabrasive list. These cited references, alone or in combination, simply do not teach or suggest an abrasive slurry comprising superabrasive particles in combination with a dispersant having molecular weights or amine values as recited in Applicants' claims

Further, the Office Action alleges that Applicants are "attempting to claim known dispersants via a novel 'formula' overlapping the general teaching of molecular weight and amine value in the art, which is permissible upon a showing of unexpected results" (Office Action at page 9). The Office Action, however, asserts that "applicants have not presented evidence supporting any alleged unexpected results for the entire broad ranges presently claimed". Applicants disagree. Applicants' claims are limited, for example, to superabrasives (i.e., natural or synthetic diamond, and cubic boron nitride). This is a relatively narrow selection of abrasive particles when compared to all known abrasive particles. Further, Applicants have provided numerous examples, along with comparative examples, to illustrate the results achieved using the claimed invention. Accordingly, Applicants have properly met their burden of showing results for the range presently claimed.

In summary, there is no evidence of record indicating that those of ordinary skill would have been properly motivated to combine one of the dispersants reported by Yamamoto et al., Cayton et al., or Kamikubo et al. into a dispersion taught by Bruxvoort et al., much less a dispersion comprising superabrasives. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-4 and 7-19 under 35 U.S.C. § 103.

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In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested. The Examiner is invited to contact Applicants' undersigned representative with any questions concerning the present application.

Respectfully submitted,

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Date

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